

IN THE UNITED STATES DISTRICT COURT FOR THE
WESTERN DISTRICT OF OKLAHOMA

UNITED STATES OF AMERICA,)
)
Plaintiff,)
)
-vs-) Case No. CR-15-129-D
)
GREGORY JOHN MAUREK,)
)
Defendant.)

* * * * *

TRANSCRIPT OF PROCEEDINGS

HAD ON SEPTEMBER 14, 2015, AT 10:00 A.M.
BEFORE THE HONORABLE TIMOTHY D. DeGIUSTI
U.S. DISTRICT JUDGE, PRESIDING

* * * * *

MOTION TO SUPPRESS

Proceedings recorded by mechanical stenography; transcript produced by computer-aided transcription.

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PROCEEDINGS

(The following proceedings were had September 14, 2015,
with Court, counsel, and defendant present:)

4 THE COURT: This is the case of United States vs.
5 Gregory John Maurek, CR-15-129-D. This is a hearing on the
6 defendant's motion to suppress evidence.

7 Appearances, please.

8 MS. BLACKBURN: Kerry Blackburn on behalf of the
9 United States.

10 MR. AUTRY: David Autry for Mr. Maurek, and
11 Mr. Maurek is present, your Honor.

12 THE COURT: All right. Thank you, Mr. Autry.

13 Mr. Autry, it's your motion. Are you ready to proceed?

14 MR. AUTRY: Yes, your Honor.

15 THE COURT: Please do so.

16 MR. AUTRY: Your Honor, Ms. Blackburn's witnesses
17 are here and available. If she could present her witnesses,
18 if that's agreeable with the Court.

19 THE COURT: Just have her present them and you
20 cross-examine them?

21 MR. AUTRY: Yes, sir.

22 THE COURT: Is that acceptable with you,
23 Ms. Blackburn?

24 MS. BLACKBURN: That's fine, your Honor.

25 | THE COURT: All right. Please proceed.

DIRECT EXAMINATION OF ROBERT ERDELY

9:37:51:15AM

MS. BLACKBURN: Your Honor, the government calls
2 Detective Robert Erdely.

3 THE COURT: Detective, please come forward, stand in
4 front of the witness chair and be sworn.

5 (The witness was duly sworn.)

6 THE CLERK: Thank you. Please be seated.

7 **ROBERT ERDELY,**

8 called as a witness herein, having been first duly sworn,
9 was examined and testified as follows:

10 **DIRECT EXAMINATION**

11 BY MS. BLACKBURN

12 Q Sir, would you please state your name and occupation.

13 A Robert Erdely. I am a detective with the Indiana County
14 District Attorney's Office in Indiana, Pennsylvania.

15 Q At this time, is that a full-time job for you?

16 A It's a full-time job. I can work full-time hours.

17 However, the reality is I work about half my month doing
18 casework as a detective and the other half teaching law
19 enforcement.

20 Q With regard to the half of the month that you spend
21 working as a detective, are you assigned to a particular
22 division and certain job duties?

23 A When I'm teaching?

24 Q When you're not teaching.

25 A Oh, I am the computer crime unit. I am the only one. I

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9:38:56:27AM conduct online investigations and -- where I find people
2 online committing crimes and ultimately execute search
3 warrants. And also I conduct the computer forensics.

4 Q With regard to those investigations, do you have a
5 specific expertise with regard to online investigations of
6 child pornography and related child sex abuse crimes?

7 A Yes. Throughout the years I have been to numerous
8 trainings and ultimately became a trainer in online
9 investigations for the Internet Crimes Against Children Task
10 Force.

11 Q For approximately how many years have you worked, at
12 least as part of your job or prior to employment as a
13 detective, in the field of computer forensics or computers?

14 A Over ten years.

15 Q You indicated that you are a trainer. In what areas are
16 you a trainer?

17 A Online investigations, where we teach peer-to-peer
18 investigations, technology in general, which would cover
19 wireless networking, the interrogation of wireless routers.
20 Those are my primary areas of expertise.

21 Q And what is peer-to-peer?

22 A Peer-to-peer is literally computer to computer, from one
23 computer to another computer. So on the internet, the
24 internet being a network of networks, there are different
25 file-sharing programs that allow a user to set up a program

DIRECT EXAMINATION OF ROBERT ERDELY

9:40:22:18AM and share files that they've created or to share files that
2 they've downloaded from other people.

3 So that's a general term which would cover many different
4 programs. BitTorrent is specifically one of those
5 peer-to-peer file-sharing networks.

6 Q With regard to your background and expertise, do you see
7 in front of you what's been marked as Government's Exhibit 1?

8 A I do.

9 Q Can you tell us what that is?

10 A It's my CV.

11 Q As of this time, is there anything that you think you
12 need to correct with regard to that document?

13 A No.

14 MS. BLACKBURN: Your Honor, the government would
15 move to admit Government's Exhibit 1.

16 MR. AUTRY: No objection.

17 THE COURT: It's admitted.

18 Q (By Ms. Blackburn) Now, you said you train.

19 Approximately, how many hours or instances a month do you
20 train other individuals?

21 A At least two weeks out of the month, so ten days, eight
22 hours a day. That's an average. And I have been doing that
23 for -- I am involved more heavily in training over the past
24 three years. However, I have been training law enforcement
25 for in excess of six years.

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DIRECT EXAMINATION OF ROBERT ERDELY

9:41:30:18AM Q Have you ever had an opportunity to testify as an expert
2 in court with regard to peer-to-peer online investigations?
3 A I have.
4 Q On approximately how many occasions?
5 A I think there were four I had listed in federal court,
6 but there has been more than that testified in all three
7 districts in Pennsylvania. And I can't recall the other
8 instance, but there has been numerous times.
9 Q You mentioned earlier BitTorrent. Is BitTorrent a
10 commercially-available software or file-sharing program?
11 A Yes. It's freely available on the internet. There are
12 many versions of the software that you don't have to pay for.
13 However, there are versions that individuals can buy and pay
14 for.
15 Q Is there a corollary in law enforcement that is used to
16 do investigations with regard to BitTorrent?
17 A Yes. There is a whole network of law enforcement that
18 investigate network, plenty of which I have trained.
19 Q With regard to BitTorrent in particular, is there a
20 particular program that is used to do the investigations?
21 A Yes, there is.
22 Q What is that called?
23 A Torrential Downpour.
24 Q On a day-to-day basis, what, if any, expertise or
25 experience do you have with Torrential Downpour?

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9:42:48:12AM A I was part of the development team of that program. We
2 partnered with University of Massachusetts Amherst and
3 developed the software.

4 Q With regard to the software, is there ongoing
5 maintenance, for lack of a better word, or upkeep that
6 somebody is in charge of with regard to that software program?

7 A Yes. I run the law enforcement system which helps it
8 run. I am the administrator.

9 Q You indicated that you do law enforcement training. Is
10 Torrential Downpour one of the softwares that you do training
11 for?

12 A Yes, I do.

13 Q With regard to that training, at the end of that training
14 are law enforcement individuals provided with a certification
15 that would allow them to operate that software?

16 A Yes, they do.

17 Q This software, is there a charge for you to provide this
18 software to law enforcement?

19 A No. The software is free to law enforcement.

20 Q With regard to your testimony here today, are you
21 charging an expert fee to testify?

22 A I am not.

23 Q What, if any, compensation are you getting for this?

24 A Just covering my expenses to be here. There is no other
25 compensation.

DIRECT EXAMINATION OF ROBERT ERDELY

9:44:06:15AM

2 MS. BLACKBURN: If I could have -- turn on the
overhead, please.

3 Q (By Ms. Blackburn) Detective Erdely, in preparation for
4 coming here today, did you put together a slide show to help
5 demonstrate and explain the softwares?

6 A Yes.

7 Q In front of you or on the screen, there appears to be a
8 slide. Is that slide part of the presentation that you
9 prepared?

10 A Yes, it is.

11 Q With regard to BitTorrent, can you describe for us what
12 is displayed on this first screen?

13 A This is just several pieces of software that operate on
14 the BitTorrent file-sharing network. So BitTorrent is the
15 network or the networking protocol. It's the rules that a
16 program would have to follow in order to properly operate on
17 this network. Just like you have web servers that would share
18 our web pages, if you follow the web service protocol, I could
19 write a browser like Chrome or Microsoft or Explorer.

20 So these are the actual applications that would run on
21 the BitTorrent network. And it gets a little confusing
22 because you see BitTorrent in the upper left. Well,
23 BitTorrent is the protocol. It's the method in which the
24 files are shared, but it's also a company and a program. So
25 these are some of the more popular clients that are out there.

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9:45:33:09AM Q When you say "client," does that mean that this is the
2 software a person would get in order to be able to run
3 BitTorrent?

4 A Yes. You can download much of the software for free.
5 Again, some of them have paid versions. You would install it
6 into your program. So any time I say the word "client,"
7 "application," or "program," those are all synonymous. It's
8 the program running in Windows or a Mac-operating system that
9 would allow you to share files and download files on the
10 BitTorrent file-sharing network.

11 Q In this particular instance, there is one that appears to
12 be a frog with Vuze. Is that one of those?

13 A Yes, it is.

14 Q Are there legitimate items that people can obtain with
15 this type of software program?

16 A Yes. The BitTorrent network first requires that a user
17 finds something referred to as a torrent file. It ends in a
18 .torrent extension. And what that is is the set of
19 instructions to the BitTorrent application or program on how
20 to get the files. It's not the files themselves but the
21 instructions on how to get the files.

22 BitTorrent, many legitimate pieces of software are
23 delivered using this file-sharing network. And this is one
24 example. But it also illustrates how you have to find a
25 torrent file in order for the program to run. It's a two-step

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9:47:00:06AM processor. There is division there.

2 So this is a free operating system that's available. And
3 instead of having a user tie up the bandwidth on the web
4 server, where this web page is hosted, a person could download
5 the torrent. If you look in the lower left, it says
6 BitTorrent. And then you see Ubuntu 1504. And then
7 underneath that are all the different versions of the
8 software.

9 So once you click on that, a torrent file would be
10 downloaded to your computer. At that point, just by double
11 clicking on that torrent file, it would load into whatever
12 BitTorrent program you had installed. Vuze being one or
13 uTorrent. And a user would see -- typically be prompted and
14 would see the file or files that he or she would be
15 downloading and be given an option to not continue the
16 download or to cancel the download.

17 But if they acknowledge they wanted to download it, at
18 times they will be prompted where they want to save it, things
19 of that nature. But then the program would just start
20 working. It would look at those instructions and begin
21 downloading that material. So this is just one example of a
22 website where you would find a torrent file.

23 Q Showing what's file number -- excuse me -- Slide No. 3
24 here, can you tell us what this demonstrates?

25 A So this is a closer look at the file-sharing network, how

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9:48:30:18AM it would typically work. So in the upper left you see a web
2 page. It's called The Pirate Bay. That website still exists.
3 And what it is is an index -- a searchable index. It's really
4 just a web page. Just like you can search out web pages in
5 Google, on this particular website you can search out torrent
6 files. And they're described. So I could put in keywords and
7 find a torrent that contains material that I would be looking
8 for.

9 So after doing these searches, by clicking the link a
10 torrent will be downloaded just like the prior slide.

11 If we could move next.

12 Q And, actually --

13 A Oh.

14 Q -- just to go back for a moment, when we are talking
15 about this, are you talking about the commercial version of
16 the software and how it works or the law enforcement version?

17 A This is the commercial. This is the typical process to
18 download material and share material on the BitTorrent
19 file-sharing network.

20 Q Now, you referred to both Pirate Bay and Google. Can a
21 person find torrents outside of something like Pirate Bay?

22 A Yes, they can. The Pirate Bay is a website dedicated to
23 finding BitTorrent material, but I could use Google and search
24 for whatever topic: Illegal copywritten music. If I search
25 for torrents -- AC/DC torrent -- AC/DC being a group -- then I

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9:49:55:27AM could potentially see a list of torrents that would be their
2 songs or albums to download.

3 And so once I search the material, whether it's through
4 this website or any other website, and I find a torrent,
5 again, I would just have to download the file that ends in the
6 .torrent extension. That's what you see here as we've
7 advanced in this particular slide.

8 So once a user double clicks that torrent file, it
9 actually loads the instructions on how to get the files into
10 the file-sharing program, the BitTorrent program. And inside
11 that torrent are addresses of a server that's referred to as a
12 tracker. So torrents have a unique identifier that makes
13 it -- that collection of files extremely unique that there is
14 really no possibility of a -- of two different torrents having
15 the same value except to be the same.

16 So the program -- the file-sharing program would connect
17 to this tracker and ask a question. Regarding this unique
18 torrent, this -- it's just a string of characters -- letters
19 and numbers -- can you provide me download candidates? In
20 other words, IP addresses that have been reported as sharing
21 this content.

22 And so that's what you see here, the line drawn from the
23 peer to the tracker is the BitTorrent application contacting
24 the tracker trying to find IPs that have the material. And
25 it's done -- and the way it does that is that the software

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9:51:42:15AM makes a direct connection to the tracker and then the IPs
2 would be delivered to the file-sharing program. And so that's
3 where we're at right now. We are just getting a list of
4 potential download candidates.

5 Q And when we are talking about somebody going to one of
6 these torrent index websites, that's one way to get torrents
7 and material on an individual's computer; is that correct?

8 A Yes, ma'am.

9 Q Additionally, is there a way for individuals to create
10 their own torrents so that they then have -- don't have to
11 download files but they have created files on their computer?

12 A Well, yes. So someone initially has to start sharing the
13 material. So if I had a collection of files and I wanted to
14 share it to anyone on this file-sharing network, most of the
15 BitTorrent applications gives a user a way to create their own
16 torrent file.

17 So if I had a folder full of movies, I would just simply
18 point my BitTorrent application to the folder full of movies
19 and it would create a .torrent file. The only piece that
20 would be missing for me to actually start sharing that
21 material is I would have to get the torrent out there. And so
22 I would upload it to sites like The Pirate Bay so that other
23 people could search for it, find it, and ultimately download
24 it.

25 Q Are there incentives built in such that individuals would

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9:53:04:21AM want to share?

2 A The incentives are actually built into the rules, the
3 file-sharing network rules.

4 It's a tit-for-tat exchange. I am expected to give
5 pieces of a torrent that I'm downloading if the person I'm
6 connected to needs it, and they're expected to give me pieces
7 back, the pieces that I yet need to complete the download
8 process.

9 So, yes, it would download quicker when you're sharing
10 material. People are going to give me the pieces -- more
11 inclined to give me the pieces of that collection of files
12 that I'm still lacking or needing.

13 Q When you say "inclined to," is that something that
14 happens automatically with the software or something that an
15 individual user has to do in order to facilitate this?

16 A It automatically happens. It's built in to the
17 BitTorrent file-sharing protocol.

18 So now that I have the download candidates -- I have
19 downloaded a torrent, it's loaded into my program, I have
20 connected to a tracker and received download candidates --
21 then I can start connecting to these candidates. And what
22 happens is the first thing I am going to do is confirm
23 through -- it's a networking handshake. We are just going to
24 basically say hello. And when I say that, it's the program is
25 doing this automatically. Confirm that we're talking about

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9:54:31:24AM the same torrent. I have a torrent I'm interested in getting
2 pieces for. They would respond and confirm that they also
3 have that torrent. And we do some handshaking. And there are
4 slides upcoming that would further explain that.

5 And then ultimately I would report to the sharing client,
6 if I'm running software, the pieces that I'm sharing, and they
7 would in return tell me the pieces that they had and they were
8 sharing. And I would make requests of those pieces.

9 Q By doing that, what happens then?

10 A And then the exchange starts. In the typical -- the
11 standard BitTorrent client, you can see two more lines were
12 drawn there. And it looks semi-chaotic off to the right, but
13 that's that give-to-get exchange. The normal file-sharing
14 program will try to download from many clients at once because
15 it speeds up the downloading process. It adds redundancy and
16 full tolerance to the network. So if there is 100 people
17 sharing it and one person goes off-line, I could still get the
18 material.

19 So that's trying to show the peer on the left not only
20 finding multiple clients to download pieces from, but in turn
21 sharing back to those peers, which are just other computers
22 online running BitTorrent software.

23 Q Is it fair to say that if there are a hundred people
24 sharing then you are then having a direct connect with a
25 hundred other computers because you are drawing from each of

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9:56:14:12AM those sources?

2 A Correct. The network -- that's how it's designed. The
3 average everyday client that is free or that you pay for, we
4 directly connect from computer to computer. We do that
5 handshaking to make sure we are talking about the same
6 torrent. We exchange information about the pieces we are
7 sharing. And then the file transfer happens. It's all done
8 through a direct connect. That's the standard BitTorrent
9 client. That's how it's built.

10 Q And we talked about the commercial version here. Do you
11 also have a slide to explain how the law enforcement version
12 of the software works as well?

13 A I do. It's the next slide.

14 Q Can you tell us what this shows?

15 A So in law enforcement we have been investigating this
16 network for approximately three years. And over time law
17 enforcement, primarily me, we have identified torrents that
18 contain illegal material, child pornography. So me being the
19 administrator of a system and as one of the trainers, I have
20 all these torrents that we have amassed through searching for
21 them and through investigations. Because if I conduct an
22 investigation and seize a computer, I can potentially learn
23 about 10, 20, maybe 100 other torrents that I didn't know
24 existed before that.

25 So the whole part of the BitTorrent network that I just

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9:57:45:09AM showed you, the first part where we had to seek out these
2 torrents, we don't need to do. I have the torrents that
3 contain the illegal material. So I can give that to an
4 investigator who wants to conduct peer-to-peer investigations.
5 So that's why there is a red "X" drawn through that.
6 Q When you say that you can give it to them, does that mean
7 it's given to them by you contacting them directly or through
8 the software itself?
9 A Through the software itself.
10 Q So, essentially, it's built into the software that you
11 use?
12 A Yes. The process to get the torrent, investigate the
13 torrents is built into the software. And that's what that
14 says. No need to download the torrent. I give them the
15 torrent.
16 Q And what way, if any, does it differ on the tracker
17 portion?
18 A So the second step of this, once it loads -- once we load
19 a torrent into the BitTorrent application, the typical
20 mechanism to identify download candidates would be to contact
21 a tracker. So in lieu of that, we have law enforcement
22 officers searching for individuals sharing these torrents that
23 law enforcement possesses. And these are the law enforcement
24 officers that were trained to do and conduct these
25 investigations.

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9:59:08:09AM

1 So we put in place a system -- a law enforcement system
2 where my search results could be seen by and shared to other
3 law enforcement. Because the internet as a whole doesn't
4 really care about distance like we're traditionally used to.
5 If I'm searching for download candidates of a particular bad
6 torrent, I am just as likely to see someone in California
7 sharing that material as I am in Pennsylvania.

8 So if we share our search results, that investigator in
9 California that maybe sees someone on an IP address that is
10 believed to be in Pennsylvania, if he can just tell me about
11 that IP address, I can use it as an investigative lead or
12 investigative starting point.

13 I trained this way and I, myself, in using this software,
14 give that search result no more weight than I would an
15 anonymous phone call. Because the tool is designed to then
16 try to connect to this IP address and confirm firsthand that,
17 yes, the IP address does, in fact, have the torrent that
18 someone else saw as a search result.

19 So I don't need to go to trackers. Law enforcement will
20 share these search results, and I'll take that IP address, use
21 it, and confirm through a direct connection like the standard
22 client. The only difference is law enforcement told me about
23 the IP address instead of a tracker.

24 And I do a direct connection to the peer like the
25 standard software. We do a handshake like the standard

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10:00:51:06AM software. And then we download the material from the sharing
2 client. And that's confirmation to this information that I
3 received from somebody else.

4 Q I went ahead and had her go forward. I think we stepped
5 forward one click there. You started to describe the download
6 process.

7 A So then I download from the IP address or the peer that I
8 had learned about, assuming he's online, assuming he's still
9 sharing that content, that particular unique torrent. But you
10 notice there is only one line here and the second and third
11 line wasn't drawn. That's because although there is peers
12 surrounding what is labeled the suspect computer, we do
13 something in law enforcement -- and this is true with all of
14 our peer-to-peer tools -- we do something called a single
15 source download.

16 Instead of speeding up the download process and getting
17 the pieces from many sharing computers, I'm just going to
18 continually ask the same IP address for pieces I need. And if
19 he doesn't have a piece or he goes off-line, that's when the
20 investigation would stop. In that way, I know that all the
21 material downloaded came from that one computer. It's really
22 just as simple as only asking one IP address. And we are
23 being more restrictive on ourself as law enforcement than the
24 standard client is. Because a standard client would download
25 from multiple sources and it would happen very quickly

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10:02:27:27AM typically.

2 If you wanted to turn your views being one standard
3 BitTorrent client into a program that could download from a
4 single source, you could very easily do that. There is free
5 software that would restrict access to and from your computer
6 from a single IP address instead of multiple IP addresses. So
7 what law enforcement has done programmatically inside the law
8 enforcement software, anyone could do with an IP-filtering
9 piece of software. And there is free versions of it available
10 on the internet.

11 Q Earlier you had spoken about the commercial software and
12 a direct connect. The direct connect that is done with the
13 law enforcement version, the software, does it, for lack of a
14 better word, invade or go into the suspect computer more than
15 the commercial version of the software?

16 A No. We build a detailed log of the things that are
17 happening, but, no, the direct connection is the same. In
18 order to do something like you're suggesting or asking if we
19 do, it's almost an inconceivable task. Because there are so
20 many BitTorrent clients, I would have to find some
21 vulnerability, some back door -- whoever wrote Vuze, for
22 instance, maybe made a mistake in the programming and I could
23 get into secret hidden places of the computer. Well, I would
24 have to find that same vulnerability in BitTorrent, in
25 uTorrent, in all the different applications.

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10:03:58:07AM

1 No, we do the same handshake, we do the same exchange of
2 data, and ultimately download the material in the same way
3 except in our software -- the transfer is the same. We keep a
4 detailed event log to show when things happened, when the
5 material came to us. The standard client -- I don't know of a
6 standard client that would have a detailed log, but I would
7 equate that to being, you know -- I'm law enforcement, I just
8 need to take good notes.

9 Q Now, you said earlier that the software is basically a
10 sharing software. Does the law enforcement software share?

11 A No. If I had to put into categories how we differ, law
12 enforcement can't share child pornography. So all of our law
13 enforcement tools don't share. We turn off file sharing to
14 ensure we're not part of the problem. We do single-source
15 downloads. So I am going to get the whole download. Anything
16 I download comes from that one IP address I am investigating.
17 I'll ignoring any other download candidates that may be
18 available, and then the detailed logging.

19 Q How many times would you estimate that you have taught
20 the certification class for this software?

21 A Between 75 and 100 times.

22 Q As part of teaching that class, do you have the
23 individuals taking the class go through some sort of
24 validation with regard to the locks that are provided?

25 A Yes. On top of having the software validated --

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10:05:32:06AM validation tested ourselves, we make that part of the
2 curriculum. So the last thing done in class is typically that
3 the investigator that I taught how to run the software and the
4 whole investigative process would actually conduct a test in
5 class to confirm that it's working properly. And the key
6 points we want to make sure an investigator is confident and
7 can trust in this software is that this detailed log, for
8 instance, has to accurately record the dates and times. It
9 has to accurately record the torrent file we're investigating.
10 And it has to accurately record the IP address that's sharing
11 the material to that.

12 So the way we do that is we have a server that is set up
13 sharing material. It's not illegal, it's just pictures that
14 aren't copyrighted. It's innocuous material. We have the
15 investigative software, and we actually investigate this
16 validation server. And we download material. So I can show
17 this to -- the software running, making a connection to a
18 computer. I can show them the computer running a standard
19 BitTorrent client sharing data back to the investigative
20 software. They get to see both ends of the communication.
21 It's as simple as noting the date and time and then looking in
22 the log-in verifying it's accurate, noting the IP address
23 sharing the material. And the investigator can see the
24 connect and verify that it accurately records the IP address.
25 And then, finally, that it properly records that unique

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10:07:08:15AM identifier to the torrent.

2 Q Based on the classes that you've taught, your personal
3 experience both as an expert and in the investigations that
4 you've done, have you ever found an instance where this
5 program has resulted in an error in terms of misidentifying
6 who it was taking from or how the system worked? Is there an
7 error rate?

8 A No. I know of no instance. It's a computer program. It
9 does what it's supposed to. It records the dates and times
10 accurately. We set our time and clock on the computer. It
11 uses that to record the dates and times. Every class
12 concludes with a test, and it's always worked.

13 Q Now, you've talked about the version that law enforcement
14 would use in the field. Specifically, what steps do they have
15 to take from their end before they would begin their
16 investigation to operate the software?

17 A Well, then they would need to install it on their
18 investigative computer when they get back to their office.
19 They're licensed to use the software. They're issued a
20 license. They input the license, and then they just configure
21 the software to investigate IP addresses seen by other law
22 enforcement through the searching of this network that appear
23 to be in their jurisdiction.

24 We do that through a commercial website. It's called
25 MaxMind, M-A-X-M-I-N-D. And they can take an IP address and

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10:08:33:09AM tell you what state it's in and, with pretty good accuracy,
2 what city they believe it's in. That way we don't waste our
3 time. I'm in Pennsylvania. Why would I want to investigate
4 people in California? It just helps us. We don't rely on
5 those results except for to restrict and weed out the IPs I'm
6 not interested in. That's where it ends, because I'm going to
7 rely on the subpoena results from the internet provider to
8 tell me exactly where that IP address is being used and who
9 the subscriber of that internet service was.

10 Q So the individual in the field that's using the software,
11 would they then be opting for a particular location based on
12 what you've described in a particular person, I guess, based
13 on -- or identity?

14 A Yeah. They could just -- they could simply tell the
15 software, I want to investigate people in the U.S., and
16 investigate the whole country. Or people in Pennsylvania. Or
17 people in Pittsburgh, Pennsylvania. And typically a lot of
18 times we just target at the state level and then I can
19 actually see the people. If I was here in Oklahoma, I would
20 just look at the people in Oklahoma City.

21 Q By doing that, do they then have a list of candidates in
22 their geographic area to choose from?

23 A Yes. And those are what I've equated to being anonymous
24 tips. But, yes, it would be a list of IPs presented to the
25 software.

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10:09:56:12AM Q Do they then take an action with regard to the candidates
2 if they want to look at a particular candidate?

3 A Then they can download from them and review the
4 downloaded material, verify that it is, in fact, illegal.
5 There would be the detailed logs to confirm when those events
6 happened, when the file-sharing occurred.

7 Q You discussed earlier that individuals can both download
8 or create their own torrents to obtain and put out these
9 particular materials. Can you describe that for us?

10 A And this is Vuze, actually, where I could point to a
11 single file, if you look two-thirds of the way down the image,
12 single file is selected. Or directly full of files. And
13 then -- it's a wizard. I just hit next. It would go through
14 and just create a torrent file. The only step left at that
15 point would be to let my software run sharing these files that
16 I have just created a torrent for. And then I would have to
17 get that torrent out to the world, so I do that through -- or
18 could do that through a website like The Pirate Bay. I just
19 upload the torrent, and then it's immediately searchable by
20 users of that website.

21 Q And can you describe to us exactly what is in a torrent?

22 A So this is an example of what a torrent would be. If a
23 torrent had three files in it -- tree JPEG, flower MPEG, and
24 ocean JPEG -- what happens is it actually -- if you can
25 picture those files all lined up in a row, and it will specify

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10:11:26:21AM how big each piece of data should be. And those are the
2 pieces I was referring to as being traded.

3 So in this case, you can see that piece zero completely
4 encompasses tree JPEG and is actually the beginning of the
5 movie flower MPEG -- mpg. So if I were to download piece
6 zero, I would have all of tree JPEG. It's sitting in a folder
7 on my computer wherever I specified, and I could see it right
8 away. It's available to me. I don't need to have all the
9 pieces to see the files if there is multiple files in the
10 torrent. I just need to have downloaded all the pieces
11 required for that file to exist completely on my system.

12 If I were to get all four pieces, I would have all four
13 files. If I only had piece zero and piece three, I would have
14 completely downloaded two pictures, tree JPEG and ocean JPEG.
15 But yet I was missing a couple of pieces to complete the movie
16 flower.mpg.

17 So if you look below in the two boxes, the left box being
18 the information that is found in the torrent and then there is
19 actually example data to the right. So one thing about the
20 BitTorrent network is that that unique identifier to the
21 torrent that we use when we go to trackers, for instance, to
22 find download candidates, it includes the -- that file hash of
23 the data, those pieces that you see above, piece zero, piece
24 one, piece two. It uses the secure hash algorithm hashing
25 method. It's very, very reliable. It's used in computer

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10:13:10:03AM forensics.

2 And the BitTorrent network actually uses that hashing to
3 identify the data that make up a torrent. Where it's unique,
4 though, is that the -- the unique identifier to the torrent
5 not only is a hash of that data that is the files being
6 traded. It actually includes the file names and the folders
7 that they live in.

8 So before I even start an investigation on the torrent, I
9 know how the files are named, I know what folder they live in,
10 and then I ultimately know the data. And I can be as sure of
11 that as the secure hashing algorithm is the probability of it
12 being wrong, which is inconceivable the number is so great.

13 So that's just basically what makes up a torrent, which
14 is it will describe the folders they live in, the file names,
15 how big the files are, the number of pieces that make up a
16 torrent, how big each piece should be, and then the SHA-1 hash
17 of every piece of data. We use this same hashing in computer
18 forensics.

19 Q With regard to this particular testimony, did you receive
20 some materials from an individual names Chris Lamer prior to
21 your testimony here today?

22 A I did.

23 Q Did that consist of a series of six logs related to
24 torrents?

25 A Yes.

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10:14:45:03AM Q In talking with Detective Lamer, did you ascertain that
2 there was one torrent in particular to focus on with regard to
3 your testimony?

4 A Yes. I focused in on one of the six. However, I
5 reviewed all six logs.

6 Q And with regard to the logs, if you go to the next slide,
7 does this particular document have some relationship to the
8 logs that you received?

9 A Yes. This is one of the torrents that was investigated.

10 Q And it appears that there are big, blue boxes at the top.
11 Can you tell us what, if anything, that is covering?

12 A That's the unique identifier. It's also referred to as
13 an info hash. And it's a unique identifier to a torrent that
14 contains child pornography. So we redacted the ending portion
15 because if you had that value, you could very easily seek out
16 that material on the internet and find the same torrent.

17 Q With regard to this particular torrent, did you recreate
18 this based on the information that you got?

19 A Yes. I actually opened the exact same torrent that
20 calculates the same info hash. And you can see the guts, so
21 to speak, that make up a torrent, what's inside. I have made
22 it human readable using a program that also the university
23 developed for us.

24 Q And what can you tell us about this torrent?

25 A Well, it defines 36 different files and each piece should

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10:16:10:03AM be four megabytes, which makes it a very, very large collection
2 of file. Almost nine gigabytes. That's a lot of material.

3 There is comments, tells you where the torrent -- this
4 particular torrent was downloaded from. Although it could
5 exist in many places on the internet.

6 Then on the files box -- I have one expanded, but it
7 tells you all the file names. And then the second file down
8 it actually has expanded the information that is hidden. So
9 you hit the little plus sign, and it tells me it's index one.
10 So meaning it's file one, but that's a little confusing
11 because the torrents are numbered starting counting at zero.
12 So the second file is actually named index one.

13 And then it tells how big the file is. It tells you what
14 pieces that that -- this movie file lives in. So if I was
15 able to download piece 275 through 457, then I would have that
16 whole file. And immediately I could start viewing it.

17 And then you can see the folder lives in Web video
18 collection. There is a backwards slash and then preteen,
19 space, HQ. All of that is defined by the torrent. And that's
20 the stuff the person downloading the material would see. If I
21 load a torrent into my BitTorrent application, I'm going to
22 see those directly names and then I will see those file names,
23 because it's defined by that info hash. It has to be.

24 Then you finally see all the SHA-1 hashes of every piece.
25 So you would have to scroll down, but there is 2,256 pieces in

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10:17:49:09AM this torrent. So I have 2,256 SHA-1 hashes of every piece.

2 Then finally at the bottom is a list of those trackers.
3 If you think back to my earlier presentation where the
4 standard client would reach out to a tracker to find download
5 candidates, that's also in the torrent. That's needed to make
6 it work.

7 Q Again, when you say "reach out," is that something that
8 the user has to do in an affirmative step or is that something
9 the software is made to do?

10 A Yeah. BitTorrent clients automatically do it. It's
11 not -- as soon as they double click a torrent and it loads
12 into their BitTorrent program, the stuff I am describing just
13 happens.

14 Q Did you have -- also have an opportunity to make some
15 slides about the downloads -- the downloads within that
16 particular torrent as well?

17 A I did. So there were six torrents on March 18, 2015.
18 And I took excerpts of that log to explain what they mean.
19 And all six logs listed the IP address of the transfer as
20 being 68.97.10.183, port 6881. So the IP address is unique to
21 the internet customer at that moment in time. The port
22 actually will identify the program or application that is
23 running on that computer. So if you think -- if you want an
24 analogy, the IP address could be compared to a home address.

25 A port would be what door or window would I want to enter

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10:19:30:27AM the house through. So, for instance, if I am a web server, I
2 am listening on port 80. And on that same computer, I could
3 be a mail server and I am listening on port 25. This
4 BitTorrent application was waiting for connections on port
5 6881.

6 In this detailed log, which is those good notes that I
7 spoke of, that the program takes for us during the undercover
8 session, it dates and time stamps the activity. So on March
9 18th at 2:57 a.m., the download was added to the program as a
10 candidate, and the IP address and port being investigated were
11 just as I described.

12 Q Is there anything else you need from this slide?

13 A No. It relates the current date and time back to UTC in
14 the middle entry, but that's all it does.

15 So then in that same log it's going to define what
16 torrent we're talking about. This is that unique identifier
17 to the collection of files. In the log it tells us how many
18 files are described by that torrent, how big the entire
19 collection of files would be if it was all downloaded, how
20 many pieces make up that torrent, and then how big each piece
21 is.

22 Then next.

23 So then what happens is it will go out and create the
24 directory structure on your computer. And I like comparing
25 this to being an empty bucket. So I need to create the

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10:21:13:15AM directory structure defined by the torrent just like the
2 standard client would, and it's an empty file. There is no
3 data yet. So that once a client starts sharing pieces with
4 me, I can spill that data right into the right bucket. So
5 that's what's being showed here. It says created
6 uninitialized file zero. You can see the path is just like
7 the torrent described it as being. And then we give that
8 first file a name that's also defined by the torrent. We are
9 just following the instructions in the torrent.

10 At 2:57 a.m., on March 18th, a direct connection was made
11 from the investigative software to the sharing computer. And
12 that's what the "connected" refers to. This is the same type
13 of connection that a standard client would have.

14 Second line says: Attempting to negotiate message stream
15 encryption with client. Then the third line is saying it was
16 successful.

17 So BitTorrent clients -- modern BitTorrent clients, what
18 it will do is try to encrypt the communication between the
19 sharing computer and the connecting computer. It's a standard
20 thing that happens in the normal software. So we follow the
21 same rules. If a piece of -- a client or an application we're
22 connected to wants to be encrypted, it can choose to be
23 encrypted. Sometimes it doesn't choose to be encrypted so we
24 don't encrypt it. It doesn't matter to us really. But the
25 way that it's implemented, it would prevent someone in the

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10:22:45:00AM middle -- like the internet provider, if they wanted to snoop
2 on the communication, what's happening on my business, they
3 wouldn't be able to see what's happening between these two
4 sharing computers. That's what that's about. It's in the
5 log, so I thought it was worth mentioning.

6 So here is the portion of the log where we do that
7 handshaking, the client confirms, yes, I have that info hash.
8 I have that torrent that is very uniquely identified through
9 that string of letters and numbers. The client supports
10 BitTorrent Fast Extension and then extended handshake. I will
11 show you the extended handshake, I think, on the next slide.

12 Q If I could stop you for a second. When you are referring
13 to an "info hash," is the info hash the torrent?

14 A It is the torrent. It's a unique identifier to the
15 torrent. It's actually a SHA-1 hash of all that information I
16 talked about: The file names, the folders, the SHA-1 hash of
17 every piece of data. So it's just another hash. It's a SHA-1
18 hash. Very reliable means of hashing.

19 Q Okay.

20 A Sent extended handshake message. Sent "have none"
21 message. So that is the investigative software basically
22 telling the computer we have connected to that we're not
23 willing to share any piece of data. I told you that law
24 enforcement software, we can't -- we can't share. None of our
25 software shares data back. So that is a standard message on

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10:24:16:15AM the BitTorrent network. If the client I connected to had no
2 pieces to share with me, they would have said the same exact
3 thing. "Have none."

4 Received a bitfield message. So what that is -- and I am
5 just going to -- oh, it's down below. There is 2,256 pieces.
6 So the bitfield message is the sharing computer telling me
7 exactly what pieces they have to share. That way I can choose
8 to download the ones that I still need. The standard
9 client -- maybe I already have half of the collection or I
10 have a thousand pieces. So I am going to ask for those 1,200
11 missing pieces.

12 So that's part of the handshaking that happens. And the
13 standard client -- and we do the same thing. And literally --
14 it says bitfield message, but if you picture -- if you picture
15 2,256 positions, and each position could be a one or a zero, a
16 zero meaning I don't have it, a one meaning I have it, that's
17 literally what it is. It's a bitfield message. I don't have
18 piece zero but I do have piece one, I do have piece two, but I
19 do have piece three. So now I can pick which ones I want.

20 And we summarize it by saying at this moment in time when
21 we first started this investigation -- I said "we," but it's
22 Detective Lamer -- there were 231 pieces possessed at that
23 moment in time. So the sharing computer had about 10 percent
24 of the whole collection. And there were 36 files in the
25 torrent. So if I am just speaking in generalities, that means

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10:25:53:21AM he probably had about 3.6 videos. That's 10 percent of 36;
2 right?

3 Next slide.

4 So in the extended handshake, the one thing that's
5 interesting to me as an investigator -- but this is the
6 standard message that they send to any client, he will tell me
7 what version of software he is running. That's important for
8 me to document. We want to document all the information, but
9 I need to know as an investigator what kind of software the
10 individual is running because there is BitTorrent clients that
11 runs on mobile phones, Android applications, on Apple devices,
12 on Linux operating system or a Macintosh operating system or a
13 Windows operating system. I need to know who I should bring
14 to a search warrant. So that's something we document. And
15 it's -- we are going to go in the door knowing that the
16 software claimed to be Vuze version 5.6.

17 And then once the pieces are downloaded, a SHA-1 hash is
18 made of every piece. Because there was 2,256 pieces and
19 whatever number of pieces were downloaded in this case, I
20 would want to calculate the SHA-1 hash. Then inside the
21 torrent was a list of all the piece hashes. All piece zero
22 should be SHA-1 hash, whatever it was.

23 So by hashing the piece I downloaded from the sharing
24 client, I can compare it to what the torrent said it should
25 be, and I can verify with certainty that, yes, I got the

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10:27:30:15AM correct data. It is, in fact, what the torrent says it should
2 be.

3 Q And we are going along and apparently -- and you have
4 been talking about a lot of different pieces and different
5 things that are in the logs. What you have laid out here, is
6 this basically a word for word what's in those logs?

7 A There is more information. I took out excerpts of all
8 the different types of communication you would see in the log.

9 Q The log itself for something like this, would it be fair
10 to see it can run 800, 900, a thousand pages?

11 A Yes. Depending on -- this is nine -- almost nine
12 gigabytes of data. It would be hundreds of pages most likely.
13 Could be even thousands of pages. If it's a small video it
14 could be a dozen pages.

15 So then after we confirm that the pieces were accurate,
16 we can actually know what files we've completed the
17 downloading process of. So file 31 was completed but yet I
18 didn't get all of the 32nd file. In the 33rd file, no pieces
19 were received. So the log will detail to us what files
20 completed the downloading process. And all of the material
21 came from that one IP address we connected to.

22 Then finally we can calculate two different types of
23 hashes for all the completed downloads, and that's at the end
24 of the log. So we calculate here the SHA-1 hash and MD5 hash.
25 It's just two different mathematical algorithms that we can

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10:29:06:21AM pass data through that will spit out a fixed length
2 identifier. It's going to be unique to that data regardless
3 of how the file is named.

4 Q When you say that you can "calculate" it, is that
5 something that the law enforcement individual doing the
6 investigation does or is that something that the software
7 automatically does?

8 A It's the same -- it's something the software
9 automatically does. There are free programs out there that
10 you can download and hash a file that you just downloaded, but
11 we just automate the process.

12 Q Could you look in front of you? I believe there is
13 Government's Exhibit No. 2.

14 A Yes.

15 Q Can you tell me, is that a copy of the presentation
16 you've just done?

17 A Yes. It appears to be complete. The only thing you
18 would be missing is the animations. But, yes.

19 MS. BLACKBURN: Your Honor, the government would
20 move to admit Exhibit 2.

21 MR. AUTRY: No objection.

22 THE COURT: It's admitted.

23 MS. BLACKBURN: No further questions at this time,
24 your Honor.

25 THE COURT: Cross-examination?

CROSS-EXAMINATION OF ROBERT ERDELY

10:30:04:24AM

MR. AUTRY: Thank you, your Honor.

2

CROSS-EXAMINATION

3

BY MR. AUTRY

4

Q So, Detective, as I understand it, the Torrential Downpour program that you talked about earlier, that's an enhanced version of the BitTorrent program? Is that right?

7

A It is a BitTorrent application. I just would want to know what you mean by "enhanced."

9

Q Well, it's not the same as the regular BitTorrent application that's available to anybody in the public. This is some kind of proprietary software that modifies the ordinary, for want of a better term, BitTorrent network. Is that correct?

14

A It's designed -- well, I would say that all these different BitTorrent programs -- and on the first sheet I listed several of them -- they are all different. They all follow the BitTorrent protocol. And the differences in ours is -- I threw into those three broad categories. So enhanced? It's different, but all of them are different with different features and options. Ours doesn't share, ours takes good notes, and ours -- detailed notes. We don't -- oh, and we do a single-source download, so we restrict our download from one IP.

24

Q All right. So these -- I don't know, what do you call these? Applications?

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10:31:26:09AM A Applications or programs.

2 Q Okay. Programs. These are the ones that are available

3 to the general public; is that correct?

4 A Those are some of them. There's hundreds.

5 Q Oh, okay. And the Torrential Downpour program that

6 you've been talking about that is used exclusively by law

7 enforcement, it has those differences you talked about;

8 correct?

9 A Yes.

10 Q Okay. And it's not available to the general public;

11 true?

12 A No.

13 Q Okay. And you developed this particular software in

14 cooperation with the University of Massachusetts at Amherst;

15 is that correct?

16 A Yes, sir.

17 Q Okay. So you actually helped develop it or create it?

18 A Yes. I wasn't the primary programmer of the tool. I

19 worked with the developer that did. I worked on the system

20 where law enforcement can share their search results with

21 other law enforcement --

22 Q Okay.

23 A -- the back end to the program. So we worked together

24 day in and day out for quite some time to develop it.

25 Q Okay. And that's some kind of proprietary software;

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10:32:27:27AM correct?

2 A Proprietary? Yes. Meaning that we have it and no one
3 else -- law enforcement has it. We give it to law
4 enforcement.

5 Q Okay. You talked about training individuals to use this
6 particular program or this particular software.

7 A Yes, sir.

8 Q And do you know whether Detective Lamer, who conducted
9 the investigation in this case, is certified to use the
10 Torrential Downpour software?

11 A In speaking with him, he told me the training that he was
12 at. I don't have -- I didn't look up in the records of ICAT
13 training. I just would be taking him at his word.

14 Q All right. So when Detective Lamer or whoever in law
15 enforcement throughout the United States is using this -- I
16 will call it an enhanced or modified version of the BitTorrent
17 network that's available exclusively to law enforcement --
18 when he is using that, it's not like he's sitting there at his
19 computer trying to access pieces of information from other
20 computers using an ordinary file-sharing program; right?

21 A No. It's automated like the standard program is
22 automated. You load the torrent and it runs.

23 Q Right. But it's not like he is sitting there with a
24 standard version of the BitTorrent network looking for IP
25 addresses to people who have these particular torrents or

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10:33:47:03AM particular files; correct?

2 A No. It uses the system I just described.

3 Q All right. And the system you just described differs
4 from the types of programs or software available to the
5 general public in that it allows you to isolate or focus on a
6 single source or a single IP address; is that correct?

7 A Correct. That's built into the program.

8 Q All right. And if I was on a regular BitTorrent network
9 and put in a search term looking for files of a particular
10 subject, I would have to be taking pieces of those files from
11 any number of different computers or peers; is that right?

12 A Well, you said "have to," so I would disagree with that.

13 Q Well, isn't that generally how it works?

14 A The standard client can download from multiple clients,
15 probably does prefer because it would speed up the download.
16 If there was only one sharing client out there, it would
17 download the whole thing from one client. And I did describe
18 in my testimony how you could use a standard program like Vuze
19 and also make it a single-source downloading program by adding
20 an IP filter. But you said has to, so that's why I disagreed.

21 Q Okay.

22 A That's why I disagree with your question.

23 Q Okay. Well, here is where my confusion comes in. You
24 say that somebody could get a standard piece of software or
25 computer equipment that would allow you on a file-sharing

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10:35:13:06AM program to download from a single source; right?

2 A Yes, sir.

3 Q And the enhanced program, Torrential Downpour, allows you
4 to download from a single source; right?

5 A Yes, sir.

6 Q Okay. So what's the difference then? If I can, you
7 know, use some kind of ordinary software that I can get just
8 as a citizen or a consumer and download from a single source,
9 why do you need this super fancy enhanced version of the
10 network?

11 A Well, I am not sure what you mean by "super fancy."

12 Q Well, okay. That's -- I am not describing it that well.

13 A Okay.

14 Q But the -- what I will call the proprietary law
15 enforcement software. You are not telling the Court that the
16 proprietary law enforcement software is identical to what's
17 available to the general public, are you?

18 A No. Actually, I described that all these are different,
19 every single one, of the ones available to the general public.
20 They are all different in different respects. But to go to
21 your question that was before that, that preceded that, is
22 that the fact that we developed the software to only download
23 from one IP address basically removes any possibility of
24 error. We've tested it. It's built right into the program.

25 Again, we are more restrictive on ourself. We download

CROSS-EXAMINATION OF ROBERT ERDELY

10:36:32:06AM from one IP instead of multiples. That can happen normally on
2 the network. If only one person is sharing the torrent, I
3 would get it from one person or I could ensure it through
4 using a second piece of software where I could just punch an
5 IP address in and say only communicate with that one IP.

6 So our software is different absolutely. The program is
7 designed to just download from a single IP. I just was
8 illustrating to the Court that anyone can do it --

9 Q Right.

10 A -- with software that's already out there. They don't
11 even have to develop it. It's already out there.

12 Q Okay. In this particular investigation -- well, let me
13 back up. Were you personally involved in this particular
14 investigation?

15 A I was not.

16 Q All right. Do you have any knowledge as to whether or
17 not in this particular investigation Detective Lamer
18 downloaded torrents from a single source, one computer, using
19 the law enforcement software? Or was it from multiple
20 sources?

21 A I reviewed the logs generated in this investigation. And
22 if I'm allowed to speak of that, then I would say I know that,
23 yes, he was running Torrential Downpour and, yes, he
24 downloaded from a single IP address.

25 Q Okay. Because that's what Torrential Downpour is

CROSS-EXAMINATION OF ROBERT ERDELY

10:37:53:21AM designed to do, is to download from a single address rather
2 than from multiple addresses; correct?

3 A Correct. I looked at the logs.

4 Q All right. And that's one of the things that makes the
5 program or the software somewhat unique; right?

6 A Somewhat unique, yes.

7 Q All right. And the other thing that makes it somewhat
8 unique is that it creates a detailed log; is that right?

9 A Correct.

10 Q Okay. And the ordinary, I guess, file-sharing software
11 on the BitTorrent network does not create that detailed log
12 that this law enforcement software creates; right?

13 A Well, I can't speak for every program out there. There
14 is logging events in different applications. But, generally
15 speaking, I mean, I know of no other application that builds a
16 log, and certainly I would doubt that there is any one exactly
17 like that. But there is logging built into programs at times.

18 Q Okay. And what are the other differences, if any,
19 between the Torrential Downpour law enforcement program and
20 the ordinary file-sharing program that the ordinary person can
21 access?

22 A Well, I have described them, all of the differences, in
23 my testimony.

24 Q All right. Are the two things that we just went over,
25 are those the two main differences isolating --

CROSS-EXAMINATION OF ROBERT ERDELY

10:39:08:24AM A Three.

2 Q Okay. Give me the third one then.

3 A Well, we don't share --

4 Q All right.

5 A -- we download from a single IP, and we take a very -- we
6 make -- create this detailed log that acts as evidence in the
7 investigation.

8 Q It's a lot more efficient, I guess, in terms of an
9 investigation to be able to download from a single IP or a
10 single source; right?

11 A Efficient? No. I would say it's less efficient than the
12 standard program. The standard program downloads from
13 multiple sources downloading very quickly, getting me my
14 material very quickly. It's less efficient because I am --
15 it's a slower process. I am downloading from one IP address.
16 I am just asking the same IP over and over again for the next
17 piece of data. So it's less efficient. We are more
18 restrictive on ourself than the standard client is because we
19 are going to download from one IP versus many.

20 Q But if you are targeting a particular individual, I mean,
21 that's one of the benefits of the program. You can isolate on
22 one computer, one IP address, one sharing source, and things
23 of that nature; correct?

24 A Absolutely, yes.

25 Q Okay. Now, do you have a financial interest in marketing

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CROSS-EXAMINATION OF ROBERT ERDELY

10:40:19:12AM this particular piece of enhanced or proprietary software to
2 law enforcement agencies?

3 A No. The software is free.

4 Q Okay. The software is free?

5 A Yes.

6 MR. AUTRY: Could we bring up Exhibit 2, please.

7 Could we go to page seven?

8 Q (By Mr. Autry) Now, could you describe again for me,
9 Detective, what this document is exactly?

10 A That is looking inside a .torrent file. At the top you
11 see a line that says "info hash"?

12 Q Yes, sir.

13 A That's the unique identifier to that torrent. And this
14 acts as instructions to a program on how to download this
15 material. This is one of the six torrents that was
16 investigated by -- investigated by Detective Lamer.

17 Q Okay.

18 A I don't know his rank. I believe he is a detective.

19 Q Yes, sir.

20 A And to be clear, if I were to load this torrent into a
21 program like uTorrent or Vuze, you would see a lot of the same
22 information. It's the instructions. So a standard program
23 can show it. However, this one is our own viewer of torrents.

24 So then you see how many pieces make up the torrent.

25 Each piece is going to be part of a file or files. You can

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CROSS-EXAMINATION OF ROBERT ERDELY

10:42:06:18AM see how big each piece is. It's four megabytes. In this
2 collection of files, whoever created this torrent chose to
3 include 36 files, so there is 36 files defined by this
4 torrent. And the total size, if you were to add all of those
5 36 files together, it would be 8.81 gigabytes. A very large
6 collection.

7 Q Okay. And this particular page of the document doesn't
8 contain any kind of identifying information as to what IP
9 address this stuff was accessed from; is that correct?

10 A No. This is the torrent, the instructions. Then you
11 would have to load it into a BitTorrent application and find
12 download candidates. That was part of the other slide.

13 Q Oh, okay. Is the software that's used by law
14 enforcement, this Torrential Downpour software, does it have
15 to be calibrated or anything done with it before it's utilized
16 in a particular investigation on a particular day?

17 A No, it doesn't need calibrated. We test it, it runs. It
18 runs the same way all the time.

19 Q How often does it have to be tested?

20 A We test it -- we had a validation test done independently
21 and we test it after the individuals trained, and that's the
22 only testing required. Can people test it more? Sure.

23 Q Okay. So there is not a test or a validation test that's
24 done every time a law enforcement officer utilizes the
25 Torrential Downpour software to conduct an online

CROSS-EXAMINATION OF ROBERT ERDELY

10:43:36:15AM investigation to see who is trading or possessing child
2 pornography?

3 A No. It's not like an Intoxilizer. I think that's what
4 you're asking.

5 Q Okay. You probably have submitted numerous affidavits
6 for search warrants in child pornography investigations.

7 A Yes, sir.

8 Q And when you submit an affidavit or a search warrant
9 where you've used the Torrential Downpour program, do you
10 indicate that a special proprietary law enforcement piece of
11 software was used to conduct the investigation?

12 A No.

13 Q You do not? Why not?

14 A I don't think there was a need. I indicate that I use a
15 BitTorrent piece of software and that the entire download came
16 from a single sharing client. Those are important facts a
17 judge would need to know --

18 Q All right.

19 A -- when deciding whether or not I've established probable
20 cause. The name of the software, I didn't feel it to be
21 relevant.

22 Q All right. Why is there some kind of a privilege that
23 attaches or some kind of law enforcement privilege that
24 attaches to this particular software in light of the fact that
25 the -- you're claiming it only does a couple of different

10:44:55:12AM things than the ordinary file-sharing software would do? Is
2 there a particular reason that it's inaccessible to the
3 public?

4 MS. BLACKBURN: Objection. Beyond the scope of this
5 particular motion.

6 THE COURT: That is true. That wasn't gone into.

7 MR. AUTRY: All right.

8 Thank you, Detective.

9 THE COURT: Any further direct examination --
10 redirect rather?

11 MS. BLACKBURN: No.

12 THE COURT: All right.

13 I don't believe I have any questions for you. Thank you,
14 sir. You may step down.

15 THE WITNESS: Thank you, your Honor.

16 THE COURT: Government, anything further from your
17 side?

18 MS. BLACKBURN: No.

19 THE COURT: Mr. Autry?

20 MR. AUTRY: We would call Detective -- excuse me --
21 Agent Kari Newman.

22 THE COURT: Ma'am, please come forward, stand in
23 front of the witness chair and be sworn.

24 (The witness was duly sworn.)

25 THE CLERK: Please be seated.

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DIRECT EXAMINATION OF KARI NEWMAN

10:46:32:15AM

KARI NEWMAN,

2 called as a witness herein, having been first duly sworn,
3 was examined and testified as follows:

DIRECT EXAMINATION

5 BY MR. AUTRY

6 Q Could you state your name for the Court, please, ma'am.

7 A Kari Newman.

8 Q I'm sorry. I mispronounced your first name. Car-ry, not
9 Care-ry?

10 A Yes, sir.

11 Q And could you tell the Court what you do for a living?

12 A I am a special agent for Homeland Security
13 investigations.

14 Q Located in Oklahoma City?

15 A Yes, sir.

16 Q Are you the case agent in this particular investigation
17 against Mr. Maurek?

18 A I am.

19 Q And you are the affiant on the search warrant; is that
20 correct?

21 A Yes, sir.

22 Q You put the affidavit together?

23 A Yes, I did.

24 Q And it was based both on your training and experience and
25 on information you received from Detective Lamer of the Moore

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DIRECT EXAMINATION OF KARI NEWMAN

10:47:09:15AM Police Department; is that correct?

2 A Yes.

3 Q Were you working with Detective Lamer at the time he was
4 doing his internet searches or file-sharing searches that led
5 to the evidence discovered in this case online? Or did he
6 contact you after he did all that? How did that work?

7 A He contacted me after the downloads took place.

8 Q All right. And the affidavit for search warrant, did you
9 indicate at all that a proprietary law enforcement piece of
10 software was used to access Mr. Maurek's computer?

11 A I don't believe I did.

12 Q Or that this was a sole source access using this kind of
13 law enforcement software that's not available to the general
14 public? Did you indicate that?

15 A The affidavit indicated that it was a single-source
16 download --

17 Q Uh-huh.

18 A -- from a single IP address.

19 Q All right. But as far as the exact software that was
20 used or the type of software that was used, that was not
21 discussed in the affidavit; is that correct?

22 A There was a description of how the BitTorrent and
23 BitTorrent downloads take place. As far as the name of the
24 software, no, it was not included.

25 Q Okay. What I am really getting at is there was nothing

DIRECT EXAMINATION OF KARI NEWMAN

10:48:24:06AM in the affidavit that says rather than just using the ordinary
2 BitTorrent network to conduct searches for people who possess
3 child pornography on the network, that, in fact, an enhanced
4 or modified version of the BitTorrent network exclusive to law
5 enforcement was the tool used in this investigation. That's
6 not stated; correct?

7 A That was a really long question. I am sorry.

8 Q It was more of a speech than a question. I apologize to
9 you.

10 What was not stated in the affidavit was that this
11 investigation utilized specialized modified software that's a
12 variation of the BitTorrent network but is used exclusively by
13 law enforcement. That was not stated; correct?

14 A I don't believe so.

15 Q All right. Now, the search of Mr. Maurek's apartment was
16 conducted on May 5th of this year?

17 A That sounds right.

18 Q Okay. And the warrant limited the search to Mr. Maurek's
19 apartment for computer equipment and things of that nature;
20 correct?

21 MS. BLACKBURN: Objection. Beyond the scope of the
22 motion.

23 MR. AUTRY: Your Honor, I received some information
24 that law enforcement -- since the motion was filed that law
25 enforcement went through Mr. Maurek's truck at his residence.

DIRECT EXAMINATION OF KARI NEWMAN

10:49:50:21AM A That would be outside the scope of the warrant, which was
2 simply for his apartment. I am trying to establish, to the
3 extent I can through this witness, whether that occurred or
4 not.

5 THE COURT: Overruled.

6 MR. AUTRY: Okay. Thank you.

7 Q (By Mr. Autry) You were not present during the actual
8 search? Or were you?

9 A Of the apartment?

10 Q Yes.

11 A Yes.

12 Q You were present?

13 A Yes.

14 Q Oh, okay. And how many other officers were present with
15 you?

16 A Maybe eight -- seven or eight. I don't remember off the
17 top of my head.

18 Q All right. And Mr. Maurek was not present at the
19 apartment when you arrived with the warrant; correct?

20 A Correct.

21 Q You talked to somebody who was like a manager of the
22 apartment complex to gain access to the apartment to serve or
23 execute the warrant?

24 A We obtained the keys so we wouldn't have to destroy
25 property any more than necessary.

DIRECT EXAMINATION OF KARI NEWMAN

10:50:45:24AM Q All right. And when you went through the apartment, you
2 gathered computer equipment, a camera, and some paper
3 documents; right?
4 A That sounds correct.
5 Q Okay. It's on the return.
6 A Yes.
7 Q But -- everything you gathered from the apartment was on
8 the return.
9 A Yes.
10 Q Okay. Now, Mr. Maurek had a vehicle in the parking lot
11 of the apartment complex?
12 A I believe he did, yes.
13 Q Okay. Do you remember what kind of vehicle that was?
14 A I think it was a truck.
15 Q Do you remember what color it was?
16 A I want to say white.
17 Q Okay. And y'all went out and looked at the truck; right?
18 A We looked at -- yeah.
19 Q Somebody got in the truck, didn't they?
20 A I couldn't say if somebody got in the truck.
21 Q You can't deny it either, can you?
22 A I did not get in the truck and I did not see anyone else
23 get in the truck.
24 Q Okay. Did you look inside the truck?
25 A I'm sure we looked through the windows to see if there

DIRECT EXAMINATION OF KARI NEWMAN

10:51:42:00AM was anything in plain view.

2 Q Did you look in the bed of the truck?

3 A I have no idea.

4 Q Okay. How many officers were looking in the truck or
5 looking at the truck?

6 A I do not know. I was not out there.

7 Q Okay. Did you direct any officers to look at or in the
8 truck?

9 A I believe I asked somebody -- I do not remember who -- to
10 check the truck, see if there was anything in plain view that
11 would indicate a need to get a further search warrant for the
12 truck.

13 Q When you say check to see if there is "anything in plain
14 view," did that imply that they could open the door -- the
15 truck door and kind of look around to see if there was
16 anything in plain view?

17 A I could not speak to what they would infer from that. I
18 am not them.

19 Q Okay.

20 A I asked that the truck be checked for anything in plain
21 view, which, in my mind, would be from outside the truck.

22 Q Did they check the truck?

23 A As far as I know.

24 Q Okay. Was anything taken from the truck?

25 A No, sir.

DIRECT EXAMINATION OF KARI NEWMAN

10:52:45:18AM Q Was anything seen by plain view or otherwise in the truck
2 that you thought might have evidentiary value?
3 A No, sir.
4 Q Did anybody move the seats of the truck or anything like
5 that?
6 A I have -- I don't know.
7 Q Okay. Was the truck locked or unlocked?
8 A I do not know.
9 Q All right. Did you have any kind of conversation with
10 any agents after you or somebody directed them to look at the
11 pickup truck as to what they did or what they saw or anything
12 like that?
13 A My recollection is at some point somebody said the truck
14 is clear.
15 Q The truck is clear?
16 A Meaning there is nothing further.
17 Q All right. Now, the application for the search warrant
18 that you did or the affidavit and the application and the
19 search warrant itself limited the search to Mr. Maurek's
20 residence, didn't it?
21 A Yes, sir.
22 Q It did not extend to any vehicles he may have had on the
23 property; correct?
24 A Correct.
25 Q All right. Well, to the extent that the warrant was

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DIRECT EXAMINATION OF KARI NEWMAN

10:53:48:06AM limited in that way, what reason would there be for you to
2 direct other agents to look at the truck?

3 A The truck was in a public space. Anybody in the public
4 could go and look in the windows.

5 Q Okay.

6 A And, therefore, that would allow us to do the same.

7 Q Okay. Could anybody in the public open the door of the
8 truck and climb inside?

9 A I suppose if the doors were unlocked that would be
10 possible.

11 Q Okay. Was there any kind of tarp or any kind of covering
12 of things in the bed of the truck that you're aware of?

13 A I -- I don't know.

14 Q You indicated that you did not personally look in or at
15 the truck but you were aware that the truck was there; right?

16 A Yes, sir.

17 Q Okay. Did you look in it or anything like that?

18 A No, sir.

19 Q Okay. How many agents went out to look at the truck or
20 in the truck?

21 A As I stated before, I do not know.

22 Q I'm sorry. I probably asked you that before.

23 A You did.

24 Q Okay. Thank you, Agent.

25 THE COURT: Cross-examination?

10:55:01:06AM

2 MS. BLACKBURN: No.

3 THE COURT: Thank you, ma'am. You may step down.

4 THE WITNESS: Thank you, your Honor.

5 THE COURT: Mr. Autry?

6 MR. AUTRY: No further evidence, your Honor, at this
time.

7 THE COURT: Mr. Autry, do you care to present
8 argument? I have read all the briefing, just to let you know.
9 But if you would like to present anything --

10 MR. AUTRY: Your Honor, we basically stand on our
11 brief. I am trying to get to the bottom of whether or not
12 anybody actually went in the truck. That's why I called Agent
13 Newman. The Court has heard that testimony.

14 But the Court has got the briefs and the arguments, and
15 we don't have anything additional to add.

16 THE COURT: All right.

17 Government counsel, anything additional?

18 MS. BLACKBURN: No.

19 THE COURT: All right. Very well.

20 Thank you all. And I will endeavor to get an order out
21 in this matter as soon as possible.

22 With that, court is in recess.

23

24 (Proceedings concluded at 10:55 a.m.)

25

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10:55:55:09AM

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12 Dated this 1st day of July, 2017.

13

14

s/CHRISTINA L. CLARK
15 Christina L. Clark, RPR, CRR

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